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FOURTH SEMESTER DIPLOMA EXAMINATION IN ENGINEERING/
TECHNOLOGY—OCTOBER, 2012

QUANTITY SURVEYING—I
(Common for CE, EN and WR)

[Time : 3 hours

(Maximum marks : 100)

- [Note : 1. Missing data may be suitably assumed.
2. Quantities should be worked out in standard form.
3. Sketch on 4th page.]

Marks

PART—A

I Answer *all* questions in one or two sentences. Each question carries 2 marks.

1. What are the essential requirements for preparing quantity surveying ?
2. What is meant by work charged establishment ?
3. Write the different methods of taking out measurements for detailed estimate.
4. What is meant by a W.B.M. Road ?
5. Define lead and lift.

(5x2=10)

PART—B

II Answer *any five* questions. Each question carries 6 marks.

1. Explain Trapezoidal formula and prismoidal formula for computation of volume of earthwork.
2. Calculate the quantity of earthwork using prismoidal formula for a portion of Road 400 metre length in a uniform ground. The heights of banks at the two ends being 1.20 m and 1.8 m. The formation width is 10 metre and side slope is 2:1. Assume that there is no transverse slope.
3. Estimate the quantity of D.P.C. required for the building in figure 1.
4. Determine the painting area of doors and windows in the given figure 1 [Fully panelled shutter].
5. Determine the quantity of masonry work required for a well 2.00 metre inner diameter and 5.50 m deep. The thickness of masonry work is 30 cm.
6. Determine the quantity of parapet wall 60 cm height and 20 cm thickness for the given drawing 1.
7. Explain how you will prepare the cost of a building.

(5x6=30)

PART--C

(Answer *one* full question from each unit. Each question carries 15 marks.)

UNIT - I

- III Estimate the quantity of earth work by Trapezoidal formula for a portion of road 300 m length from the following data. Draw the longitudinal section of the road and a typical cross section (Length of chain is 30 m).

Formation width : 10m, Side slope 2:1.

Chainage	50	51	52	53	54	55	56	57	58	59	60
RL of ground	130	130.60	130.44	130.90	130.42	129.30	130.00	129.10	129.60	129.00	128.30
Gradient	132	Downward gradient 1 in 150.									

R. L. of formation at 50th chainage is 132.00.

15

OR

- IV Compute the quantity of earth work by prismatic formula for a portion of road 400 metre length from the following data. Draw the longitudinal section of the road and a typical cross section.

Formation width : 10m. Side slope 1.5:1

R.L. of formation at 300 m is 25.00.

Distance in m.	300	340	380	420	460	500	540	580	620	660	700
RL of ground	26.00	25.90	26.10	25.90	25.00	24.60	24.20	24.40	24.30	24.00	23.60
Gradient	25.00	Downward gradient 1 in 200.									

15

UNIT - II

- V (a) Determine the quantity of Earth work for the building in figure 1. 10

- (b) Calculate the quantity of earth filling in plinth for the building in figure 1. 5

OR

- VI Compute the quantity of brick work and the number of bricks required for walls for the building in figure 1. 15

UNIT - III

- VII Calculate the quantity of R.C.C. work for roof slab, sun shade and lintel for the building in figure 1. 15

OR

- VIII Determine the quantity of internal and external plastering on brick masonry for building in figure 1. 15

UNIT - IV

IX Work out the rate per unit for R.C.C. 1:2:4 using 20 mm broken stone.

Materials :

0.009m³ broken stone @ ₹ 700.00/m³
 0.0045m³ sand @ ₹ 1750.00/m³
 3.30 kg. cement @ ₹ 4700.00/t

Labour :

0.002 Mason @ ₹ 325.00/Each
 0.01 Man @ ₹ 240.00/Each
 0.035 Woman @ ₹ 240.00/Each

Conveyance charges for materials :

Materials	Distance in km	Rate per unit/km (₹)
Broken stone	25	15
Sand	23	16
Cement	10	47

Add 10% profit for the contractor.

15

OR

X Calculate the rate for standard unit for brick work in cement mortar in 1:5.

Materials :

500 nos bricks @ ₹ 2500.00/1000 nos.
 0.24 m³ sand @ ₹ 1750.00/m³
 69 Kg cement @ ₹ 4700.00/t

Labour :

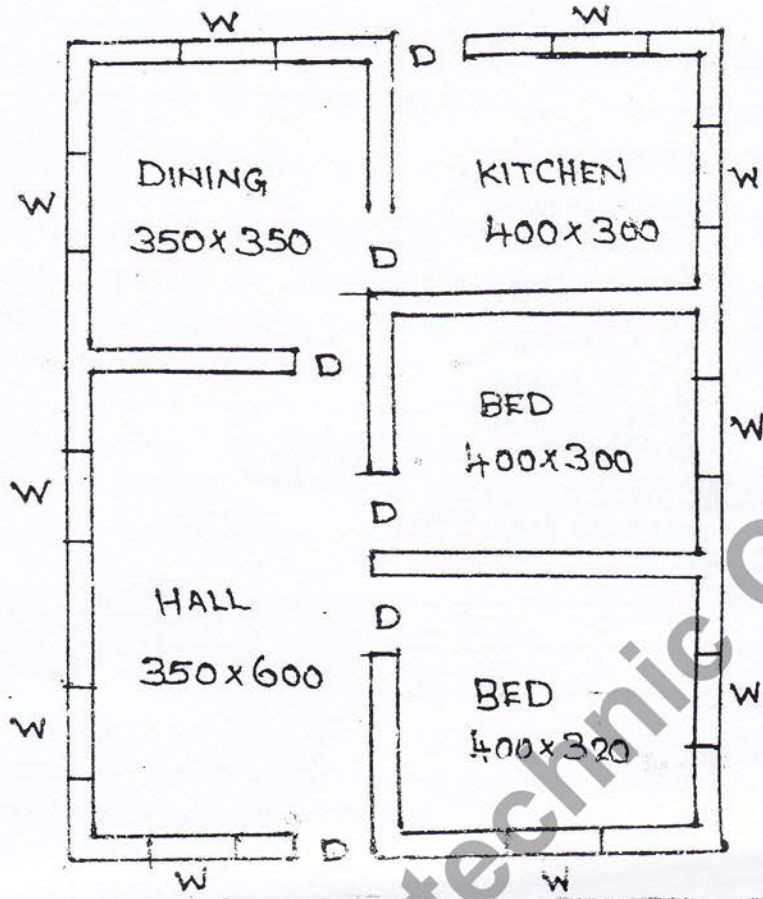
0.70 brick mason @ ₹ 325.00/Each
 0.35 Men @ ₹ 240.00/Each
 0.70 Women @ ₹ 240.00/Each.

Conveyance charges for materials :

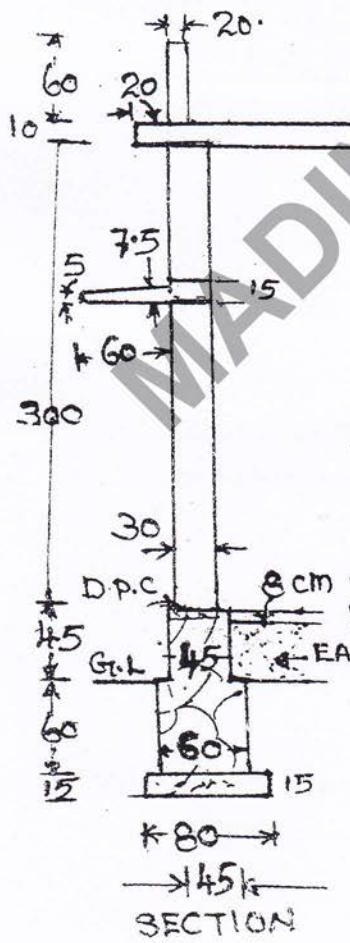
Materials	Distance in km	Rate per unit/km (₹)
Brick	18	18
Sand	35	16
Cement	10	47

Add 10% profit for the contractor.

15



PLAN.



D - 100x210 cm.
W - 120x150 cm.

LINTEL 15 cm THICK THROUGHOUT THE ALL WALL.

SUNSHADE - 60 cm WIDTH :-

7.5 cm THICK AT SUPPORT, 5 cm THICK AT END.

SECTION

FIG. 1